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Effective on 12/08/2004.

Pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL

For FY 2005

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 500.00

Complete if Known

Application Number	10/667,014
Filing Date	September 17, 2003
First Named Inventor	John M. Calico
Examiner Name	Thiem D. Phan
Art Unit	3729
Attorney Docket No.	MP-349

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FEE CALCULATION**1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	_____
Design	200	100	100	50	130	65	_____
Plant	200	100	300	150	160	80	_____
Reissue	300	150	500	250	600	300	_____
Provisional	200	100	0	0	0	0	_____

2. EXCESS CLAIM FEES**Fee Description**

	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims	Extra Claims	Fee (\$)	Fee Paid (\$)
_____ - 20 or HP = _____	x _____	= _____	

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	Extra Claims	Fee (\$)	Fee Paid (\$)
_____ - 3 or HP = _____	x _____	= _____	

HP = highest number of independent claims paid for, if greater than 3.

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
_____ - 100 = _____	/ 50 = _____	(round up to a whole number) x _____	= _____	

4. OTHER FEE(S)

Non-English Specification, \$130 fee (no small entity discount)

Other (e.g., late filing surcharge): _____

SUBMITTED BY

Signature		Registration No. (Attorney/Agent) 26,587	Telephone (716) 847-8400
Name (Print/Type)	Peter K. Sommer		Date April 18, 2006

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**TRANSMITTAL
FORM**

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

33

Application Number

10/667,014

Filing Date

September 17, 2003

First Named Inventor

John M. Calico

Art Unit

3729

Examiner Name

Thiem D. Phan

Attorney Docket Number

MP-349

ENCLOSURES (Check all that apply)

Fee Transmittal Form



Fee Attached



Amendment/Reply



After Final



Affidavits/declaration(s)



Extension of Time Request



Express Abandonment Request



Information Disclosure Statement



Certified Copy of Priority Document(s)

Reply to Missing Parts/
Incomplete ApplicationReply to Missing Parts
under 37 CFR 1.52 or 1.53

Drawing(s)



Licensing-related Papers



Petition

Petition to Convert to a
Provisional Application

Power of Attorney, Revocation



Change of Correspondence Address



Terminal Disclaimer



Request for Refund



CD, Number of CD(s) _____

☐ Landscape Table on CD

After Allowance Communication to TC

Appeal Communication to Board
of Appeals and InterferencesAppeal Communication to TC
(Appeal Notice, Brief, Reply Brief)

Proprietary Information



Status Letter

Other Enclosure(s) (please identify
below):

Remarks

Appeal Brief attached

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name

Phillips Lytle LLP

Signature

Printed name

Peter K. Sommer

Date

March 31, 2006

Reg. No.

26,587

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Peter K. Sommer

Date

April 18, 2006

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:

Applicant: John M. Calico

Appl'n. No.: 10/667,014

Group No. 3729

Filed: September 17, 2003

Examiner: Thiem D. Phan

For: STATOR FOR AN ELECTRIC DEVICE

Mail Stop Appeal Briefs - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

APPEAL BRIEF

Respectfully submitted,

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APPEAL BRIEF

Sir:

This brief is in furtherance of the Notice of Appeal filed in this case on April 7, 2006.

The fees required under 37 C.F.R. § 41.20, and any required petition for extension of time for filing this brief and fees therefor, are dealt with in the accompanying Transmittal of Appeal Brief.

I. Real Party in Interest

The real party in interest in this appeal is Moog Inc., a New York corporation, having a principal place of business located at Seneca Street and Jamison Road, East Aurora, New York 14052.

Moog Inc. is the assignee of the entire right, title and interest in and to the subject application by various mesne assignments.

II. Related Appeals and Interferences

There are no other appeals or interferences that will directly affect, be directly affected by, or

have a bearing on, the Board's decision in this appeal.

III. Status of Claims

A. Total Number of Claims in Application

Claims in the application are: 31 and 34-37

B. Status of All the Claims

1. Claims cancelled: 1-30 and 32-33.
2. Claims withdrawn from consideration but not cancelled: None
3. Claims objected to: none
4. Claims allowed or confirmed: none
5. Claims rejected: 31 and 34-37

C. Claims on Appeal

The claims on appeal are: 31 and 34-37

IV. Status of Amendments

Applicant filed an Amendment After Final Rejection with the Notice of Appeal. This amendment corrects an obvious error in claim 31, and simply presents the claims in better form for the purposes of appeal.

V. Summary of Claimed Subject Matter

This invention relates to a method of forming an electric motor. An annular stator is formed by assembling a plurality of arcuate stator segments (200), such as shown in Fig. 2. Each segment is an arcuate member having a concave surface (*i.e.*, facing toward the reader), a convex surface (*i.e.*, facing away from the reader), and left and right end sur-

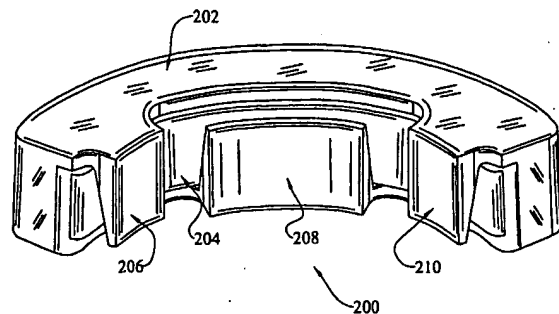
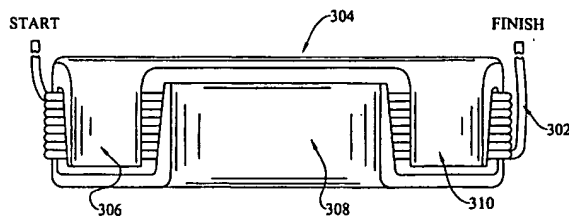


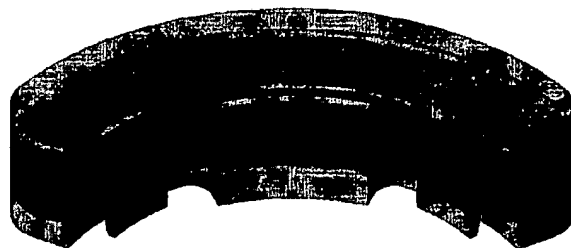
Fig. 2 of Applicant's Specification

faces joining the margins of the concave and convex surfaces. A plurality of teeth (206, 208, 210) extending radially inwardly from the concave surface.

Each segment has an electrical winding therewithin that generally follows the contour of the segment; *i.e.*, it has various portions that are arranged adjacent the concave, convex and end surfaces of the associated segment.



*Fig. 3D of Applicant's Specification
(Two Tooth Embodiment)*



*Perspective View of Segment
(Three Tooth Embodiment)*

Thus, each segment has its own individual winding, and each winding is adapted to be selectively energized to produce a three-dimensional magnetic field about such segment, as shown in Fig. 5.

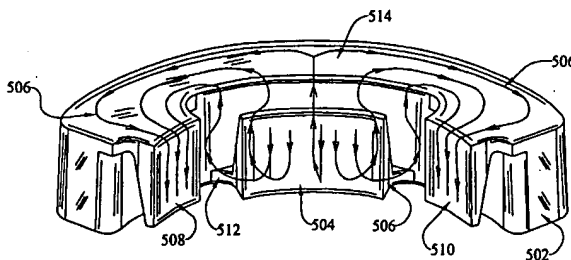


Fig. 5 of Applicant's Specification

The segments are assembled to form an annular stator. A single-phase current is provided to each winding that is different from the phase of the current supplied to the windings of the adjacent segments, as schematically illustrated in the linearized view of Fig. 4:

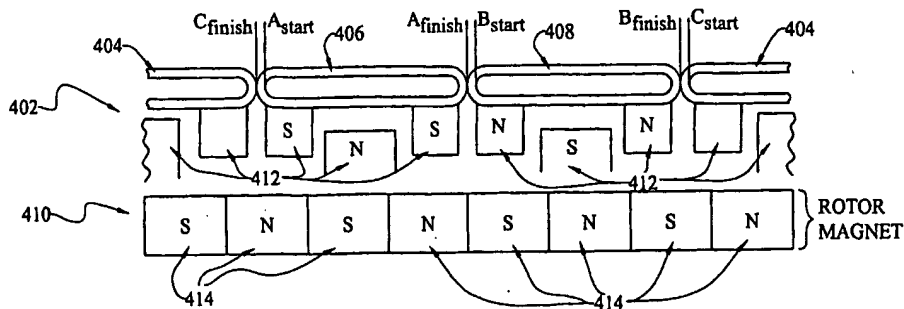


Fig. 4 of Applicant's Specification

Independent claim 31 is reproduced herebelow, and is annotated with parenthetical reference to the corresponding parts, portions or surfaces of the disclosed embodiment for purposes of illustration:

"31. The method of forming an electric motor, comprising the steps of:
forming a plurality of arcuate stator segments (200), each segment having a concave surface, a convex surface, opposite end surfaces, and a plurality of teeth (206, 208, 210) extending inwardly from said concave surface;
providing a separate electrical winding (204) for each segment, each winding having different portions that are arranged adjacent said concave, convex and end surfaces of the associated segment, said winding being adapted to be selectively energized to form a three-dimensional magnetic field about said segment;
assembling said segments to form an annular stator; and
placing a rotor within said stator, said stator having at least two magnetic poles that are arranged to interact with the magnetic field in said stator." (Parenthetical reference added)

VI. Grounds of Rejection to Be Reviewed on Appeal

Whether claims 31 and 34-37 were properly rejected under 35 U.S.C. § 102(b) as being anticipated by Huang (U.S. Pat. No. 5,592,731)?

VII. ARGUMENT

A. Rejections under 35 U.S.C. § 102

Of the appealed claims, only claim 31 is in independent form. Claims 34-37 are severally dependent on independent claim 1, and are to be construed as incorporating by reference all of the limitations of that main claim. (35 U.S.C. § 112, para. 4). Hence, the initial focus is on independent claim 31. If this claim distinguishes patentably from the prior art, then each of the trailing dependent claims must similarly so distinguish. *Ex parte Leavell*, 212 USPQ 762 (Bd. App. 1979) ["where a dependent claim is based upon an allowed parent claim, . . . , such should have been considered allowable by the examiner for the same reasons as the parent claim"]. On the other hand, if the Board

sustains the rejection of independent claim 31, then the patentability of each of the dependent claims must be separately determined.

(1) Independent Claim 31 Is Not Anticipated

Claim 31 provides:

"31. The method of forming an electric motor, comprising the steps of:

- forming a plurality of arcuate stator segments, each segment having a concave surface, a convex surface, opposite end surfaces, and a plurality of teeth extending inwardly from said concave surface;
- providing a separate electrical winding for each segment, each winding having different portions that are arranged adjacent said concave, convex and end surfaces of the associated segment, said winding being adapted to be selectively energized to form a three-dimensional magnetic field about said segment;
- assembling said segments to form an annular stator; and
- placing a rotor within said stator, said stator having at least two magnetic poles that are arranged to interact with the magnetic field in said stator."

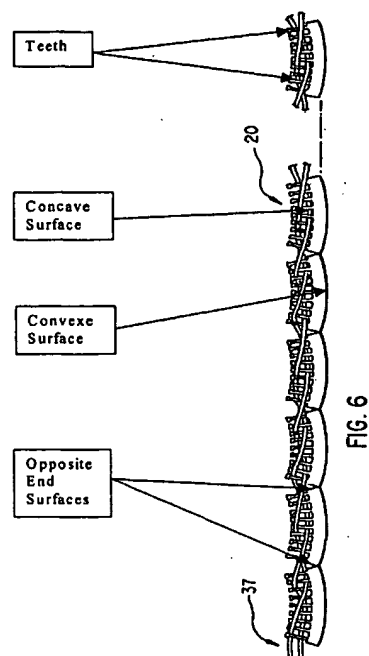
The Examiner rejected claims 31 and 34-36, saying:

"Claims 31 and 34-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Huang et al (US 5,592,731)

As applied to claim 31, Huang et al teach a method of constructing a stator, comprising:

- forming a plurality of arcuate stator segments (Fig. 6, 20), each segment having a concave surface (Fig. 6, see below), convex surface (Fig. 6, see below), opposite end surfaces (Fig. 6, see below), and a plurality of teeth (Fig. 6, see below) extending inwardly from said concave surface;
- providing a separate electrical winding (Fig. 6, 37) for each segment, each winding having different portions that are arranged adjacent said concave, convex and end surfaces of the winding, said winding being adapted to be selectively energized to form a three-dimensional magnetic field about said segment;
- assembling said segments to form an annular stator (Fig. 5, 50); and
- placing a rotor within said stator (Abstract), said stator having at least two magnetic poles (Col. 2, lines 12-15) that are arranged to interact with the magnetic field in said stator." (Emphasis added)

The Examiner then provided the following drawing, derived from Fig. 6 of Huang:



The standards for "anticipation" are well settled: to "anticipate", a single reference must describe all of the elements or limitations of the claim, and must enable one skilled in the art to make and use the claimed invention. *See, e.g., Glaverbel Société Anonyme v. Northlake Marketing & Supply, Inc.*, 45 F.3d 1550, 1554, 33 USPQ2d 1496, 1498 (Fed. Cir. 1995) ["Anticipation requires identity of the claimed process and a process of the prior art; the claimed process, including each step thereof, must have been described or embodied, either expressly or inherently, in a single reference"; "Anticipation . . . requires identity of invention: the claimed invention, as described in appropriately construed claims, must be the same as that of the reference, in order to anticipate."].

As noted above, claim 31 specifically requires the step of providing a separate electrical winding for each stator segment, with the further requirement that each such winding have different portions that are arranged adjacent the concave, convex and end surfaces of the associated segment.

Huang *et al.* discloses the method of constructing a stator by assembling a plurality of stator segments to form an arcuate stator. However, as clearly shown in Fig. 6, the very figured relied on

by the Examiner, Huang *et al.* provides a single winding that weaves in and out of the teeth of the various rotor segments forming the stator assembly. Contrary to the position taken by the Examiner, Huang *et al.* does not disclose the provision of a separate electrical winding for each segment. Thus, Huang *et al.* does not anticipate claim 31.¹

Accordingly, the rejection of claim 31 must be reversed.

(2) Dependent Claims 34-37 Are Not Anticipated

The various dependent claims distinguish from the Huang *et al.* reference in the same manner as claim 31. In addition, each of the various dependent claims recites additional details and further limitations on the structure.

(a) Claim 34

Claim 34 provides:

"34. The method as set forth in claim 31 wherein said winding is embedded within the associated stator segment."

The Examiner rejected claim 34, saying:

"As applied to claim 34, Huang *et al.* teach that the winding (Fig. 6, 37) is embedded within the associated stator segment."

This statement is simply not true. Rather, as clearly shown in Fig. 6 of Huang *et al.*, the reference teaches that the single winding 37 may be woven between and among the teeth of the various stator segments. This reference does not disclose that a winding may be embedded within

¹The summary and cavalier nature of the Examiner's action is illustrated by his statement in the Office Action of February 9, 2005:

"Applicant's arguments (filed on 11/17/05) with respect to claims 31 and 34-36 have been considered but are moot in view of the new grounds for rejection."

However, in actual fact, the Examiner has, in substance simply repeated his earlier rejection in the Office Action of September 22, 2005. The arguments expressed herein were presented in Applicant's Amendment filed on November 17, 2005.

Thus, the Examiner has simply brushed aside Applicant's earlier argument, and has simply restated his earlier rejection.

the associated stator segment.

(b) Claim 35

Claim 35 provides:

"35. The method as set forth in claim 31 wherein said winding is mounted on the associated stator segment."

The Examiner rejected claim 35, saying:

"As applied to claim 35, Huang et al. teach that the winding (Fig. 6, 37) is mounted on the associated stator segment."

Claim 35 distinguishes from Huang *et al.* in the same manner as claim 31, namely, that claim 31 specifically requires that there be a separate winding for each stator segment. This is not taught by Huang *et al.*

(c) Claim 36

Claim 36 provides:

"36. The method as set forth in claim 31 wherein said rotor has a permanent magnet, and wherein said magnetic poles on said rotor are created by the poles on said magnet."

The Examiner rejected claim 36, saying:

"As applied to claim 36, Huang et al. teach that the rotor has a permanent magnet (Col. 2, lines 12-14), and wherein said magnetic poles on said rotor are created by the poles on said magnet."

As indicated above, claim 36 distinguishes from Huang *et al.* in the same manner as claim 31, namely with respect to the specific requirement for a separate winding for each stator segment. This feature is not taught or suggested by Huang *et al.*

(d) Claim 37

Claim 37 provides:

"37. The method as set forth in claim 31 and further comprising the additional step of:

supplying a single phase current to each stator winding that is different from the phase of the current supplied to the winding of each adjacent segment."

The Examiner rejected claim 37, saying:

"As applied to claim 37, Huang et al. teach that the single phase current to each stator winding is different from the phase of the current supplied to the winding of each adjacent segment as the windings through the poles of each segment (Fig. 6, 20) are different from each other (Fig. 6, 37)."

The Examiner's statement is clearly in error. There is simply nothing in the Huang *et al.* references that teaches that each stator segment should have its own individual winding, or that the phase of current supplied to the winding of one segment should be different from the phase of the current supplied to each adjacent segment.

Conclusion

For the foregoing reasons, the Examiner's rejection of claims 31 and 34-37 should be reversed.

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Dated: April 17, 2006

VIII. Appendix of Claims

The texts of the claims involved in this appeal are:

31. The method of forming an electric motor, comprising the steps of:
- forming a plurality of arcuate stator segments, each segment having a concave surface, a convex surface, opposite end surfaces, and a plurality of teeth extending inwardly from said concave surface;
- providing a separate electrical winding for each segment, each winding having different portions that are arranged adjacent said concave, convex and end surfaces of the associated segment, said winding being adapted to be selectively energized to form a three-dimensional magnetic field about said segment;
- assembling said segments to form an annular stator; and
- placing a rotor within said stator, said stator having at least two magnetic poles that are arranged to interact with the magnetic field in said stator.
34. The method as set forth in claim 31 wherein said winding is embedded within the associated stator segment.
35. The method as set forth in claim 31 wherein said winding is mounted on the associated stator segment.
36. The method as set forth in claim 31 wherein said rotor has a permanent magnet, and wherein said magnetic poles on said rotor are created by the poles on said magnet.
37. The method as set forth in claim 31 and further comprising the additional step of:
- supplying a single phase current to each stator winding that is different from the phase of the current supplied to the winding of each adjacent segment.

IX. Appendix of Evidence

Convenience copies of the Huang *et al.* reference cited by the Examiner are attached.

X. Appendix of Related Decisions

None.

Bflo#1563070.1